expiration are in activity. The centres of inspiration are more sensitive to the cold than the centres of expiration.

Chloral has the effect of suppressing the action of the inspiratory fibres of the vagi, or rather of depressing the excitability of the centres in which they end. He also made experiments upon the effect of trigeminal irritation, by plunging the nose of a duck in water, a cannula being in the trachea. He found that respiration was arrested for a long time. The first movement that followed the arrest of respiration was not an inspiration, as is the case with the rabbit, but an active expiration which is followed by an inspiration. He believes this trigeminal sensitiveness to be a protecting agent to the nasal orifices against water.—*DuBois' Archiv*, 1883.

THE GASEOUS CHANGES IN FEVER.—Herr Lilienfeld has made with rabbits a series of experiments upon this point. His conclusions are as follows :

1. The formation of carbonic acid in fever is increased.
2. The amount of oxygen used is increased.
3. By the increase of both oxygen and carbonic acid in fever the respiratory quotient suffers no change.
4. The increase of gaseous changes is not a result of heightened temperature, but rather the cause. There must also simultaneously be a change in the regulation of the heat-dissipation, for it is well known that in healthy animals a large increase of the process of heat-production takes place, yet the temperature of the animal remains the same.
5. The regulation of the temperature of the body in fever continues. He arrives at the conclusion that in fever there is an increased innervation of the muscles, an increase of the irritations normally sent to the muscles through the nerves. He thinks that it is difficult to understand how new ferments in the blood could preserve the unchanged relation of the oxygen to the carbonic acid.

What the cause is of the increased innervation, the exaggerated muscular tonus, remains undecided.—*Pflüger's Archiv*, Band 32, Heft. 4, 5, and 6.

ISAAC OTT, M.D.

b.—GENERAL PATHOLOGY OF THE NERVOUS SYSTEM.

Dr. M. Allen Starr, in an article entitled "THE VISUAL AREAS OF THE BRAIN, DETERMINED BY A STUDY OF HEMIANOPSIA" (*The American Journal of Medical Sciences*, Jan., 1884), publishes a collection of thirty-two cases, with carefully recorded autopsies, which confirm Munk's conclusions derived from seven years' experimentation on animals. Munk gives as a final statement of his work the following conclusions :

1. "Occipital lobes of the brain are necessary for the perception of visual impressions."

2. "Each occipital lobe is in functional relation with both eyes in such a manner that corresponding halves of both retinal areas are projected upon the lobe of the like-named side."

The peculiar symptoms of blindness in corresponding halves of both eyes, called "lateral homonymous hemianopsia," was long thought to be due in every case to a destruction of one optic tract. Prior to five years ago all the cases on record supported that conclusion, but since then numerous cases have been published that demonstrate that it may be also produced by a lesion of the pulvinar of one optic thalamus, or by a lesion of one occipital lobe, situated either in its white matter, which Wernicke has proved to be a tract connecting the optic thalamus with the lobe, or situated in its cortex.

The writer brings forward two groups of cases. In the first, which consists of five cases, there was hemianopsia with lesion of one optic thalamus. In the second, of twenty-seven cases, there were lesions of the optic lobes. He adds that cases of hemianopsia produced by lesions of one optic tract are so well known and so frequently reported that it is not necessary to give them. In eight of the cases cited hemianopsia was the only permanent brain symptom present. In one of these there was a lesion in the optic thalamus; in two in the occipital lobe and the thalamus; in the remainder it was confined to the occipital lobe. "These cases alone," says the author, "would prove the fact that the visual area of the brain is located in the occipital lobe." Consciousness is associated with cortical activity only; the thalamus is but a ganglion interposed in the course of the fibres of the cortex, and not the seat of the conscious perception of sight, which is in the occipital lobes.

In the other cases recorded, where other symptoms than hemianopsia were noted, such as hemiplegia, monoplegia, unilateral convulsions, and aphasia, there were other lesions present which would account for these; therefore the conclusion arrived at from pathological researches, that these symptoms belong to the occipital lobes, and only to them, and consequently to them must be referred the function of sight.

Dr. Roberts Bartholow publishes an interesting paper on ENTERIC PARAPLEGIA in the *Boston Medical and Surgical Journal*, Dec. 13, 1883. He defines the affection as a truly reflex spinal paralysis produced by intestinal disorder. He brings forward three cases occurring in men over sixty years of age, who were afflicted with obstinate enteric disease, accompanied with a manifestation of motor and sensory paraplegia, which disappeared when the intestinal disorders were gotten rid of.

These cases, with similar ones which are on record, lead Dr. Bartholow to the two following conclusions:

1. "That there is a reflex paraplegia due to the functional disturbance of the intestine,—enteric paraplegia."

2. "That there is a paraplegia having its initial seat in the end

organs of the nerves distributed to the mucous membrane, thence ascending to the cord by a progressive neuritis."

The mechanism of the first he would explain on a vaso-motor theory. Anæmia is a cause of paraplegia. A moderate degree of stimulation of the end organs of the sensory nerves, not too violent or long continued, stimulates the vaso-motor centre in the medulla and causes a general contraction of the arterioles, as an excessive and protracted irritation depresses the vaso-motor centre and relaxes the vessels. It seems probable that an ordinary intestinal indigestion and the stretching of the nerve fibres produced by retained gas is a degree of irritation sufficient to produce the former effect. The writer also supposes that the blood pressure in the vessels of the intra-abdominal organs rises and falls in an independent manner, controlled by the same ganglia that regulate the calibre of the intra-spinal blood-vessels.

To differentiate between the reflex paraplegia and that which is an ascending neuritis succeeding certain cases of enteric, renal, or genital disease, the following distinctions should be kept in mind: Reflex paraplegia is sudden in its onset or develops quickly; is soon complete in all its symptomatology; it follows the fortunes of the producing malady; is never fatal.

That renal and intestinal troubles should in one case result in reflex disturbances, and in another in an ascending neuritis, is due, the writer thinks, to two reasons:

1. The depth and extent of the peripheric lesions.
2. An inherent susceptibility to degenerative changes in the nervous elements.

THE PULMONARY PATHOLOGY OF GENERAL PARALYSIS.—Under this title, Dr. J. Crichton Browne advances the view that among the secondary degenerations of general paralysis, those that affect the lungs are not the least conspicuous and important. In a large majority of cases of this disease where autopsies are performed, coarse changes in pulmonary structure are plainly visible, and in many instances these are of a character which indicates that they have interrupted and forestalled the progress of the cerebral disorder. In Dr. Browne's observations, made on the bodies of one hundred patients who died at West Riding Institution of general paralysis from 1872 to 1875, by far the larger number were carried off by an intercurrent disease of the respiratory organs.

1. He found a difference in the *weight of the lungs* in general paralytics. In males this amounted to an average of an ounce and three quarters in the right lung and an ounce and a half in the left. He regards this as analogous to that which takes place in senile atrophy,—a general failure in nutrition. Locomotion and vocalization are interfered with. Failure of heart's action, weak inspiratory power, diminution of the capacity of the chest are factors which account for the change of consistence found in the lungs after death. They are "of a pale color, of dry texture, and

less firm and resisting than they ought to be, having lost their elastic resilience, so that they are capable of being squeezed into a small compass. The air vesicles are of large size, and the bronchi look as if thinned."

2. *Changes in the pleuræ.* In persons afflicted with general paralysis these serous membranes are more prone to abnormal conditions than amongst mankind generally. Of the one hundred cases, seventy-four had pathological changes of one kind or another. This proclivity to inflammation of the pleural membrane may be due to the extension of this disease from the lung; also exposure and the over-exercise of the lungs, since the general paralytics often shout incessantly for hours together, and even for days and nights, with a persistency that the most inveterate orator never attains to.

3. *Congestion of the lungs.* This is the most common pathological change, occurring in forty-nine out of one hundred cases. It is hypostatic in character, and is almost invariably most marked posteriorly and in the lower lobe. This condition is due in the majority of cases to the decubitus; and the practical lesson of looking out that the position of the helpless paralytics is changed to avoid this, is deduced, and also a strong argument against mechanical restraint.

4. *Pneumonia.* This occurred in thirteen out of the one hundred cases. As an explanation of the great prevalence of pneumonia in general paralytics, he brings forth the experiments of Traube and Steiner, who demonstrated that section of the vagus or of its recurrent laryngeal branches produced inflammation of the lungs. Besides the mechanical irritation which, in those cases where there is more or less paralysis of the œsophagus and larynx, may arise from bits of food or saliva entering the bronchi, there must be some centric nervous influence at work causing neuropathic hyperæmia.

5. *Phthisis.* Phthisical consolidation or disintegration of the lung tissue occurred in twenty-five out of the one hundred cases analyzed. Excluding the question of heredity, which, as a general thing, can be done in these patients, there are attending circumstances in their general debility and loss of power, and the fact that they are crowded together in wards which are liable to be contaminated with the breath and sputum of phthisical patients, which would account for its prevalence.

In two cases of the one hundred abscess of the lung occurred.

Dr. Mickle has seen gangrene of the lung in general paralysis; but nothing approaching it was observed in any of the one hundred cases analyzed by Dr. Browne.—*Brain*, Oct., 1883.

SCIATIC NEURITIS IN PHTHISIS.—At M. Landouzy's clinic at *la Charité* there appeared a woman, thirty-three years old, emaciated, complaining of loss of appetite, of a cough, of pain in her chest, and spitting of blood. There was atrophy of the right lower extremity, mensuration showing a difference of two centimetres in the circumference of the leg and three centimetres in the circumference of the thigh. The skin was thickened, also the subcutaneous tissue, so that the atrophy was muscular. She said she had suffered constantly for eighteen months from that member whether quiet or walking, and night as well as day. She showed pain at the point of emergence of the sciatic nerve, in the length of its course, and in the principal branches.

On examination of the lungs bronchitis at apex of the right lung and tubercular infiltration of considerable extent were found. In the left lung, a suspicion of tuberculosis. The family history showed nothing to indicate a predisposition to phthisis. One husband had died of phthisis, and her present husband is a victim of tuberculosis.

M. Landouzy made the diagnosis of sciatic neuritis of phthisis.

The observations of M. Peters and M. Friot lead one to think that sciatic neuritis can begin the series of accidents of phthisis, or declare itself in the course of pulmonary tuberculosis. In these circumstances the sciatic pains may be intermittent as in neuralgia, are always persistent, and are very rebellious. Their appearance awakens the suspicion of a tuberculous alteration—it may be in the cord, it may be in the meninges, it may be in the vertebral column. They commence with the aggravation of the disease, and generally precede a little the sad termination.—*Gazette des hôpitaux*, Nov. 10, 1883.

SUBACUTE ANTERIOR GENERAL SPINAL PARALYSIS.—In the *Revue de Médecine* MM. Landouzy and Dejerine have two long and comprehensive articles concerning general spinal paralysis of rapid course, and yet curable, to which they give the name of subacute anterior general spinal paralysis, of which, up to the present time, precise anatomo-pathological data, which have been so closely made out in acute myelitis of the anterior horns, are wanting. They undertake to show in the paper under discussion that there exists a clinical form of general spinal paralysis of the anterior horns progressing rapidly, developing and terminating in several months, with a complete recovery from all the paralytic and atrophic symptoms. Their deductions are based on two cases. One a hospital patient, who, having recovered from the paralysis, succumbed to acute miliary tuberculosis, which afforded the gentlemen an opportunity to establish the pathology of the disease. This case presented the following particulars :

OBS. 1.—Paralysis and atrophy extremely pronounced and general in all the muscles of the body except those of the face. Old deformity of left limb depending on an infantile paralysis. Abolition of tendon reflex in all the affected muscles, degenerative reaction, marked exaggeration of the idio-muscular contractility. Integrity of the general and spinal sensibility, also of the cutaneous reflexes ; integrity of the skin and the sphincters. Duration of illness, ten months. Complete cure of paralysis and atrophy ;

persistence of absence of the patellar reflex; death by miliary tuberculosis.

Autopsy.—Ancient lesion of infantile paralysis in the left lumbar enlargement; trifling alterations, and probably of recent date, of the gray substance of the anterior horns in the rest of the cord; integrity of the anterior and posterior roots and of the intra-muscular nerves; multiplications and pigmentation of the protoplasm of the nuclei of the primitive muscular fibres.

OBS. 2.—Paralysis and atrophy of all the muscles of the body, having commenced by a temporary paralysis of the left facial; abolition of patellar reflex; alterations of faradic contractility; integrity of sensibility of the sphincters, and the nutrition of the skin; rapid progress of the paralysis and atrophy. Duration of disease, seven months. Cure complete and definite for four years.

These two cases are presented as types of this disease, which is little known and which has been little described. Frey gives an analogous case, under the name of temporary paralysis of the adult similar to infantile paralysis. Duchenne has also described it, as has Eisenlohr, Goldtammer, and Lincoln.

From the facts the following conclusions are deduced:

1. There is a myelopathy characterized by:

(*a*) Paralysis and atrophy of all the muscles of the body (those of the face excepted).

(*b*) The integrity of sensibility and of the sphincters.

(*c*) The integrity of the cutaneous nutrition.

(*d*) A rapid development (few months).

(*e*) Cure complete and definite of all the paralytic and atrophic troubles.

2. This affection to which we propose the name of *paralysie générale spinale à marche rapide et curable*, is to the acute spinal paralysis of the adult that which the general subacute spinal paralysis of Duchenne is to progressive muscular atrophy.

3. This disease depends on a lesion of the cells of the anterior horns of the cord, lesion situated in its whole length.

4. If the seat of the lesion is demonstrated by the pathological anatomy, its nature remains to be determined.

5. The etiology as well as the pathology remains exceedingly obscure.

6. The recognition of this form of myelopathy presents an important practical interest, since upon its differentiation depends a favorable prognosis, where at first the intensity and distribution of the paralytic and atrophic changes would lead one to dread a progressive incurable affection.

Dr. G. P. PUTNAM *for* W. R. BIRDSALL, M.D.

c.—MENTAL PATHOLOGY.

DISCHARGE OF INSANE PATIENS.—Dr. J. C. SPRAY, Superintendent of the Cook County Hospital for the Insane (Report for 1882), raises an issue not unworthy the attention of superintend-